

Medical > In Vivo > Non-Melanoma Skin Cancer Research > Basal Cell Carcinoma

1

A Systematic Review and Meta-Analysis of the Accuracy of in Vivo Reflectance Confocal Microscopy for the Diagnosis of Primary Basal Cell Carcinoma.

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ABSTRACT

Basal cell carcinoma (BCC) is the most common cancer worldwide and its incidence is constantly rising. Early diagnosis and treatment can significantly reduce patient morbidity and healthcare costs. The value of reflectance confocal microscopy (RCM) in non-melanoma skin cancer diagnosis is still under debate. This systematic review and meta-analysis were conducted to assess the diagnostic accuracy of RCM in primary BCC. PubMed, Google Scholar, Scopus, and Web of Science databases were searched up to July 05, 2019, to collect articles concerning primary BCC diagnosis through RCM. The studies' methodological quality was assessed by the QUADAS-2 tool. The meta-analysis was conducted using Stata 13.0, RevMan 5.0, and MetaDisc 1.4 software. We included 15 studies totaling a number of 4163 lesions. The pooled sensitivity and specificity were 0.92 (95% CI, 0.87-0.95; I²= 85.27%) and 0.93 (95% CI, 0.85-0.97; I²= 94.61%), the pooled positive and negative likelihood ratios were 13.51 (95% CI, 5.8-31.37; I²= 91.01%) and 0.08 (95% CI, 0.05-0.14; I²= 84.83%), and the pooled diagnostic odds ratio was 160.31 (95% CI, 64.73-397.02; I²=71%). Despite the heterogeneity and risk of bias, this study demonstrates that RCM, through its high sensitivity and specificity, may have a significant clinical impact on the diagnosis of primary BCC. **KEYWORDS:** basal cell carcinoma; diagnostic test accuracy; in vivo; meta-analysis; reflectance confocal microscopy; systematic review

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